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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:

Robert P. Meagley et al.

Serial No.: 10/616,895

Filed: July 10, 2003

For: Photodefinable Polymers for
Semiconductor Applications

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Art Unit: 1752

Examiner: Richard L. Schilling

Docket: ITL.0907US
P15299

Mail Stop **Appeal Brief—Patents**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


REPLY BRIEF

Sir:

In response to the Examiner's Answer, please consider the Arguments submitted herein.

Date of Deposit: August 14, 2006

I hereby certify under 37 CFR 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Nancy Meshkoff

ARGUMENTS

An invention is obvious only when there is some suggestion within the prior art to do what the applicant has done. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q. 2d 1313 (Fed. Cir. 2000). In formulating a rejection based on the modification of a reference there also has to be some suggestion in the prior art for the proposed modification. *In re Fritch*, 972 F.2d 1260, 1266, 23 U.S.P.Q. 2d 1780 (Fed. Cir. 1992). In the Grounds of Rejection section of the Examiner's Answer, the examiner asserts that it would have been obvious "to substitute the known inorganic filler zirconia...as a filler along with the fillers as disclosed in Sezi as the filler...called for in Sezi *with a reasonable expectation of similar results.*" Examiner's Answer, page 4 (emphasis added). When Sezi's teachings are considered in their entirety, the alleged basis for modification has not been shown to come from the prior art.

Sezi is directed toward forming porous layers. [0001]. Generally, a composition comprising an organic polymer constituent and an inorganic-organic constituent and/or an inorganic constituent is prepared, the composition is applied to a substrate, and the inorganic-organic constituents and/or inorganic constituents *are removed* to form a porous layer. [0013]-[0015]. Sezi lists very few inorganic constituents without an organic component. For example, Sezi lists "silicon, silicon salts, silicon oxide or nitride, silicas or silicates or titanium compounds." [0032]. This list is the extent of pure inorganic constituents named by Sezi, and notably they are almost all based on Si. The remainder of the paragraph discusses inorganic-organic constituents. [0032].

Moreover, the inorganic constituents serve a special purpose—they are *removed* to form the pores in the porous layer. [0021]-[0022]. The number and size of the pores is controlled by the amount and size of the materials dispersed in the organic polymer constituent such as the inorganic constituent. [0033].

There is nothing in the cited portion of Hattori to lead one to believe that zirconia can be easily substituted "with a reasonable expectation of similar results." That is, there is nothing in Hattori that suggests that zirconia is an art recognized equivalent, which can be removed from Sezi's polymer to form a porous layer. Hattori merely lists several particles that can be used as inorganic filler. But Sezi must use an inorganic constituent that is known to be removable without swelling the polymer or attacking the polymer if exposed to a solution or that is

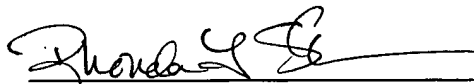
removable by a plasma. [0021]-[0022]. As the examiner has not established that it is known that zirconia can easily be substituted with a reasonable expectation of similar results, *prima facie* obviousness has not been established. In fact, the examiner acknowledges that different fillers may have different properties. Examiner's Answer, page 5. Thus, for at least this reason reversal of the rejection is requested.

Additionally, with respect to the inventor's declaration, it is indicated that the photodefinable polymers used are those set forth in the application; namely, polybenzoxazole and polybenzoxazole precursors. And the declaration indicates that thixotropy was greatly reduced when zirconia was used as a filler material. This property was unexpected. The fact that zirconia greatly reduced thixotropy over silica is evidence of nonobviousness.

Given that there is no suggestion in the prior art for the modification of Sezi proposed by the examiner in view of the inventor's declaration of unexpected results, it is respectfully submitted that the examiner has not established *prima facie* obviousness. Reversal of the rejections is requested.

Respectfully submitted,

Date: August 14, 2006



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